Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A receiver ~~for receiving~~ configured to receive a CDMA communication signal transmitted on an RF carrier frequency and ~~demodulating~~ to demodulate said RF carrier frequency to provide a received information signal; the receiver including ~~a system for correcting~~ components configured to correct phase errors in an information signal which has been modulated on said RF carrier frequency; the ~~correction system~~ receiver comprising:

circuitry ~~for generating~~ including an adjustable bandwidth filter component configured to generate a mixing signal and ~~for combining~~ to combine said mixing signal with said information signal to produce a correction signal;

an analyzer ~~for analyzing~~ configured to analyze the phase of said correction signal and ~~generating~~ to generate an error signal based on the deviation of the analyzed phase from a reference phase; and

a bandwidth controller ~~which~~ configured to recursively ~~adjusts~~ adjust the phase of said correction signal such that the phase of said correction signal is substantially equal to said reference phase; said bandwidth controller configured to control the bandwidth of the adjustable bandwidth filter component by selecting a bandwidth based on the error signal generated by said analyzer ~~within an~~

~~adjustable range based on said correction signal, estimating an offset by interrogating said error signal; and modifying said correction signal by said offset~~.

2. (Original) The receiver of claim 1 wherein said correction signal comprises an I (in-phase) component and a Q (quadrature) component, and said analyzer further comprises a look-up table for determining the phase of said correction signal; said look-up table accepting said correction signal and generating said error signal.

3. (Original) The receiver of claim 2 wherein said analyzer further comprises a normalizer for determining the magnitude of the I component and the magnitude of the Q component, selecting the larger of said magnitudes, and dividing both of said magnitudes by said larger magnitude to output a pseudonormalized correction signal.

4. (Currently Amended) The receiver of ~~claim 2~~ <u>claim 3</u> wherein said bandwidth controller further includes a bandwidth calculation mechanism which ~~accepts said correction signal and~~ outputs a bandwidth signal based upon a transfer function.

5. (Currently Amended) The receiver of claim ~~4 wherein said bandwidth controller further includes a filter having an adjustable bandwidth for maintaining~~

~~said adjustable range based on said correction signal~~ 1 further comprising a rake receiver with a plurality of independent rake elements collectively acting as a filter which compensates for channel distortion due to multipath effects.

6. (Currently Amended) The receiver of claim 5 wherein ~~said filter is responsive to said bandwidth signal from said bandwidth calculation mechanism~~ said correction signal comprises an I (in-phase) component and a Q (quadrature) component, and said analyzer further comprises a look-up table for determining the phase of said correction signal; said look-up table accepting said correction signal and generating said error signal.

7. (Original) The receiver of claim 4 wherein said bandwidth controller further includes a bandwidth calculation mechanism which accepts said pseudonormalized correction signal and outputs a bandwidth signal based upon a transfer function.

8. (Currently Amended) The receiver of ~~claim 6~~ claim 7 wherein said bandwidth controller further includes a voltage controlled oscillator ~~responsive to said filter for generating said adjusting signal~~ configured to implement bandwidth adjustments.

9. (Original) The receiver of claim 8 wherein said transfer function comprises a continuous function.

10. (Original) The receiver of claim 2 wherein said look-up table comprises a matrix of at least eight discrete in-phase component values by at least eight discrete quadrature component values.

11. (Original) The receiver of claim 2 wherein said analyzer further comprises a normalization mechanism which determines the magnitude of the correction signal and divides said correction signal by said magnitude to output a normalized correction signal.

12. (Currently Amended) A method for use with a receiver equipped to receive a CDMA communication signal transmitted on an RF carrier frequency, demodulate said RF carrier frequency to provide a received information signal, and correct phase errors in an information signal which has been modulated on said RF carrier frequency; the method comprising the steps of:

generating a mixing signal~~;~~ and combining said mixing signal with said information signal to produce a correction signal based on filtering at a selected bandwidth;

analyzing the phase of said correction signal;

generating an error signal based on the deviation of the analyzed phase from a reference phase;

recursively adjusting the phase of said correction signal such that the phase of said correction signal is substantially equal to said reference phase by adjusting the selected bandwidth used to produce said correction signal based on said error signal~~; selecting a bandwidth within an adjustable range based on said correction signal, estimating an offset by interrogating said error signal; and~~

~~modifying said correction signal by said offset~~.

13. (Currently Amended) The method of claim 12 wherein said correction signal comprises an I (in-phase) component and a Q (quadrature) component, the method further comprising the step of using a look-up table to determine the phase of said correction signal~~, such that said lookup table accepts said correction signal and generates~~ and generating said error signal in response thereto.

14. (Original) The method of claim 13 further comprising the steps of determining the magnitude of the I component and the magnitude of the Q component, selecting the larger of said magnitudes, and dividing both of said magnitudes by said larger magnitude to output a pseudonormalized correction signal.

15. (Currently Amended) The method of claim 12 ~~further comprising the steps of accepting said correction signal and~~ wherein the recursively adjusting the phase of said correction signal includes outputting a bandwidth signal based upon a transfer function.

16. (Currently Amended) The method of ~~claim 15~~ claim 12 further including the step of compensating for channel distortion due to multipath effects ~~maintaining said adjustable range based on said correction signal~~.

17. (Currently Amended) The method of claim 14 ~~further including the steps of receiving said pseudonormalized correction signal and~~ wherein the recursively adjusting the phase of said correction signal includes generating a bandwidth signal based upon a transfer function.

18. (Original) The method of claim 17 wherein said transfer function comprises a continuous function.

19. (Original) The method of claim 13 further including the steps of determining the magnitude of the correction signal and dividing said correction signal by said magnitude to output a normalized correction signal.

20. (Original) In a CDMA communication system, a method for correcting an incoming signal for phase errors, the system including a receiver having an adjustable bandwidth phase-locked loop (PLL), the method comprising the steps of:

(a) comparing the incoming signal with a correction signal to produce an error signal;

(b) normalizing the error signal into a normalized signal;

(c) analyzing the normalized signal to determine a quantized phase error signal;

(d) generating a control signal in response to the quantized phase error signal;

(e) adjusting the bandwidth of a PLL filter in response to the quantized phase error signal and the control signal, wherein the PLL filter generates an error voltage;

(f) sending the error voltage to a voltage controlled oscillator to generate the correction signal; and

(g) repeating steps (a) through (f) while the incoming signal is being received.

21. (Original) The method of claim 20, wherein the normalizing step is performed by:

determining an in-phase (I) and a quadrature (Q) component of the error signal;

identifying which of the I and Q components has the largest magnitude;

dividing the error signal by the I component if the I component has the largest magnitude; otherwise, dividing the error signal by the Q component.

22. (Original) The method of claim 21 including the step of determining the quantized phase error signal by using the I and Q components to index a lookup table.

23. (Currently Amended) The method of claim 20, wherein the ~~adjusting~~ generating step includes:

~~examining~~ estimating the variance of the quantized phase error signal ~~to generate an offset~~; and

~~integrating the offset to produce the error voltage~~ outputting a bandwidth control signal based on the variance using a transfer function.

24. (Original) An adjustable bandwidth phase-locked loop for use in a CDMA communication system to correct an incoming signal for phase errors, wherein the

incoming signal is modulated on an RF carrier signal, said phase-locked loop comprising:

a comparison mechanism for comparing the incoming signal with a correction signal, said comparison mechanism producing a complex error signal having an I (in phase) component and a Q (quadrature) component;

a processing mechanism for normalizing the complex error signal and producing a quantized phase error signal;

a phase-locked loop filter having an adjustable bandwidth, said phase-locked loop filter generating an error voltage in response to the quantized phase error signal;

a voltage controlled oscillator for generating a correction signal in response to the error voltage; and

a bandwidth adjustment mechanism for controlling the bandwidth of said phase-locked loop filter, said bandwidth adjustment mechanism generating a control signal for controlling said phase-locked loop filter in response the quantized phase error signal.

25. (Original) The adjustable bandwidth phase-locked loop of claim 24, wherein said phase-locked loop filter comprises:

a lag filter for receiving the control signal and the quantized phase error signal as inputs and, in response thereto, generating estimates of phase error relative to a predetermined value; and

a lead filter for generating an error voltage in response to the phase error estimates.